

F0994

PATENT



BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of: Chow et al.

Serial No.: 09/911,907

Filed: July 23, 2001

Group Art Unit: 2181

Before the Examiner: Patel, Niketa

Title: METHOD TO COMMUNICATE PHY MEAN SQUARE
ERROR TO UPPER LAYER DEVICE FOR RATE
NEGOTIATION

APPEAL BRIEF

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I. REAL PARTY IN INTEREST

The real party in interest is Advanced Micro Devices, Inc., which is the assignee of the entire right, title and interest in the above-identified patent application.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to Appellants, Appellants' legal representative or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-9 are pending in the Application. Claims 1-9 stand rejected. Claims 1-9 are appealed.

IV. STATUS OF AMENDMENTS

Appellants have not submitted any amendments following receipt of the final rejection with a mailing date of February 28, 2006.

V. SUMMARY OF CLAIMED SUBJECT MATTER

In one embodiment of the present invention, a method for communicating a Physical Layer (PHY) mean square error (MSE) to an upper layer device driver, comprises the step of receiving a frame by the PHY. Specification, page 6, lines 2-11; Figure 4, step 402. The method may further comprise computing a MSE for the frame by the PHY. Specification, page 6, lines 2-11; Figure 4, step 404. The method may further comprise sending the MSE and the frame to a Media Access Control (MAC). Specification, page 6, lines 2-11; Figure 4, step 406. The method may further comprise inserting the MSE into a frame status frame (FSF) associated with the frame by the MAC. Specification, page 6, lines 2-11; Figure 4, step 408. The method may further comprise sending the frame and the FSF to the upper layer driver software. Specification, page 6, lines 2-11; Figure 4, step 410.

In another embodiment of the present invention, a method for communicating a PHY MSE to an upper layer device driver comprising the step of receiving a frame by the PHY. Specification, page 6, lines 2-11; Figure 4, step 402. The method may further comprise computing a MSE for the frame by the PHY. Specification, page 6, lines 2-11; Figure 4, step 404. The method may further comprise sending the MSE and the frame to a MAC. Specification, page 6, lines 2-11; Figure 4, step 406. The method may further comprise inserting the MSE into a FSF associated with the frame by the MAC. Specification, page 6, lines 2-11; Figure 4, step 408. The method may further comprise sending the frame and the FSF to the upper layer driver software. Specification, page 6, lines 2-11; Figure 4, step 410. The method may further comprise extracting the MSE from the FSF by the upper layer driver software. Specification, page 6, lines 2-11; Figure 4, step 412. The method may further

comprise computing an AMSE based on the MSE by the upper layer software. Specification, page 6, lines 2-11; Figure 4, step 414.

In another embodiment of the present invention, a method for communicating a PHY MSE to an upper layer device driver comprising the step of receiving a frame by the PHY. Specification, page 6, lines 2-11; Figure 4, step 402. The method may further comprise computing a MSE for the frame by the PHY. Specification, page 6, lines 2-11; Figure 4, step 404. The method may further comprise sending the MSE and the frame to a MAC. Specification, page 6, lines 2-11; Figure 4, step 406. The method may further comprise inserting the MSE into a FSF associated with the frame by the MAC. Specification, page 6, lines 2-11; Figure 4, step 408. The method may further comprise sending the frame and the FSF to the upper layer driver software. Specification, page 6, lines 2-11; Figure 4, step 410. The method may further comprise extracting the MSE from the FSF by the upper layer driver software. Specification, page 6, lines 2-11; Figure 4, step 412. The method may further comprise computing an AMSE based on the MSE by the upper layer software. Specification, page 6, lines 2-11; Figure 4, step 414. The method may further comprise comparing the AMSE with a range of AMSE values for a PE. Specification, page 6, lines 12-15. The method may further comprise transmitting at the PE if the AMSE is within the range. Specification, page 6, lines 12-15. The method may further comprise negotiating a change in the PE if the AMSE is not within the range. Specification, page 6, lines 12-15.

In another embodiment of the present invention, a computer readable medium with program instructions for communicating a PHY MSE to an upper layer device driver, comprising the step of receiving a frame by the PHY. Specification, page 6, lines 2-11; Figure 4, step 402. The computer readable medium with program instructions further comprises computing a MSE for the frame by the PHY. Specification, page 6, lines 2-11; Figure 4, step 404. The computer readable medium with program instructions further comprises sending the MSE and the frame to a

MAC. Specification, page 6, lines 2-11; Figure 4, step 406. The computer readable medium with program instructions further comprises inserting the MSE into a FSF associated with the frame by the MAC. Specification, page 6, lines 2-11; Figure 4, step 408. The computer readable medium with program instructions further comprises sending the frame and the FSF to the upper layer driver software. Specification, page 6, lines 2-11; Figure 4, step 410.

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-9 stand rejected under 35 U.S.C. §102(e) as being anticipated by Bullman et al. (U.S. Patent No. 6,928,057) (hereinafter "Bullman").

VII. ARGUMENT

A. Claims 1-9 are improperly rejected under 35 U.S.C. §102(e) as being anticipated by Bullman.

The Examiner has rejected claims 1-9 under 35 U.S.C. §102(e) as being anticipated by Bullman. Office Action (2/28/2006), page 2. Appellants respectfully traverse these rejections for at least the reasons stated below.

For a claim to be anticipated under 35 U.S.C. §102, each and every claim limitation must be found within the cited prior art reference and arranged as required by the claim. M.P.E.P. §2131.

1. Claims 1, 5, 8 and 9 are not anticipated by Bullman.

Appellants respectfully assert that Bullman does not disclose "inserting the MSE into a frame status frame (FSF) associated with the frame by the MAC" as recited in claim 1 and similarly in claims 5, 8 and 9. The Examiner cites column 2, lines 48-55 and column 6, lines 18-35 of Bullman as disclosing the above-cited claim limitation. Office Action (2/28/2006), page 2. Appellants respectfully traverse.

Bullman instead discloses that the piggy-back packet is associated with a data packet received by the physical layer system. Column 2, lines 48-50. Bullman further discloses that the piggy-back packet may be transmitted by the generator to the correlator without being associated with a data packet. Column 2, lines 50-52. Bullman further discloses that the correlator may pass the information about the physical layer system to a receiving subsystem embodied within the communications device. Column 2, lines 53-55. Bullman further discloses that the generator (element 335) may transmit the piggyback packet immediately following the associated data packet. Column 6, lines 17-19. Bullman further discloses that the generator (element 335) may construct a piggyback packet independent of a data packet based upon changing characteristics of the physical layer system (element 330). Column 6, lines 19-22. Bullman further discloses that the piggyback packet passes through the MAC layer subsystem (element 328) of the data link layer system (element 330) without substantial modification thereto. Column 6, lines 28-30. Hence, Bullman discloses a generator in the physical layer system transmitting a piggyback packet as well as constructing a piggyback packet based upon the changing characteristics of the physical layer system. Bullman further discloses that the generator may transmit the piggyback to the correlator. Bullman further discloses that the piggyback packet passes through the MAC layer subsystem without substantial modification thereto.

There is no language in the cited passages that discloses inserting the MSE into a frame status frame (FSF). Neither is there any language in the cited passages that discloses inserting the MSE into a frame status frame (FSF) associated with the frame by the MAC. Thus, Bullman does not disclose all of the limitations of claims 1, 5, 8 and 9, and thus Bullman does not anticipate claims 1, 5, 8 and 9. M.P.E.P. §2131.

Further, in connection with the rejection of the above-cited claim limitation, the Examiner appears to be focusing on the fact that Bullman discloses that the piggyback packet passes through the MAC layer subsystem without substantial

modification thereto. Office Action (2/28/2006), page 4. Appellants respectfully traverse the assertion that the teaching of passing the piggyback packet through the MAC layer subsystem without substantial modification necessarily concludes the teaching of inserting the MSE into a frame status frame (FSF) associated with the frame by the MAC. The Examiner must provide a basis in fact and/or technical reasoning to support the assertion that the teaching of passing the piggyback packet through the MAC layer subsystem without substantial modification in Bullman necessarily concludes the teaching of inserting the MSE into a frame status frame (FSF) associated with the frame by the MAC. *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). That is, the Examiner must provide extrinsic evidence that must make clear that the teaching of passing the piggyback packet through the MAC layer subsystem without substantial modification in Bullman necessarily concludes the teaching of inserting the MSE into a frame status frame (FSF) associated with the frame by the MAC, and that it would be so recognized by persons of ordinary skill. *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). Since the Examiner has not provided any such objective evidence, the Examiner has not presented a *prima facie* case of anticipation for rejecting claims 1, 5, 8 and 9. M.P.E.P. §2131.

Appellants further assert that Bullman does not disclose "sending the frame and the FSF to the upper layer driver software" as recited in claim 1 and similarly in claims 5, 8 and 9. The Examiner cites column 6, lines 36-43 of Bullman as disclosing the above-cited claim limitation. Office Action (2/28/2006), page 2. Appellants respectfully traverse and assert that Bullman instead discloses that the correlator (element 321) performs piggyback packet recognition and extracts information about the physical layer system. Column 6, lines 38-41. Bullman further discloses that the correlator may pass the extracted information to a receiving subsystem or to upper layers of the translation system's protocol stack. Column 6, lines 41-43. There is no language in the cited passage that discloses sending the frame and the FSF to the upper layer driver software. Thus, Bullman does not disclose all of the limitations of

claims 1, 5, 8 and 9, and thus Bullman does not anticipate claims 1, 5, 8 and 9. M.P.E.P. §2131.

Appellants further assert that Bullman does not disclose "extracting the MSE from the FSF by the upper layer driver software" as recited in claim 5 and similarly in claim 8. The Examiner cites page 2, lines 5-22 of Appellants' Specification as disclosing the above-cited claim limitation. Office Action (2/28/2006), page 3. Appellants respectfully traverse.

There is no language on page 2, lines 5-22 of Appellants' Specification as disclosing extracting the MSE from the FSF. Neither is there any language on page 2, lines 5-22 of Appellants' Specification as disclosing extracting the MSE from the FSF by the upper layer driver software. Thus, Bullman does not disclose all of the limitations of claims 5 and 8, and thus Bullman does not anticipate claims 5 and 8. M.P.E.P. §2131.

Further, Appellants respectfully traverse the assertion that it would be inherent for Bullman to disclose extracting the MSE from the FSF by the upper layer driver software. The Examiner must provide a basis in fact and/or technical reasoning to support the assertion that Bullman inherently discloses extracting the MSE from the FSF by the upper layer driver software. *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). That is, the Examiner must provide extrinsic evidence that must make clear that Bullman inherently discloses extracting the MSE from the FSF by the upper layer driver software, and that it would be so recognized by persons of ordinary skill. *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). Since the Examiner has not provided any such objective evidence, the Examiner has not presented a *prima facie* case of anticipation for rejecting claims 5 and 8. M.P.E.P. §2131.

Further, Appellants respectfully traverse the implied assertion that it would have been obvious to one of ordinary skill in the art to modify Bullman to extract the

MSE from the FSF by the upper layer driver software. In order to establish a *prima facie* case of obviousness¹, the Examiner must provide some suggestion or motivation, either in the references themselves, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved, to modify the reference or to combine reference teachings. *See In re Dembiczak*, 175 F.3d 1994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). The Examiner has not presented any motivation for modifying Bullman to extract the MSE from the FSF by the upper layer driver software. Instead, the Examiner is relying upon his own subjective opinion which is insufficient to support a *prima facie* case of obviousness. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002). Consequently, the Examiner has not presented a *prima facie* case of anticipation/obviousness for rejecting claims 5 and 8.

Appellants further assert that Bullman does not disclose "computing an average mean square error (AMSE) based on the MSE by the upper layer software" as recited in claim 5. The Examiner cites page 2, lines 5-22 of Appellants' Specification as disclosing the above-cited claim limitation. Office Action (2/28/2006), page 3. Appellants respectfully traverse.

Appellants respectfully traverse the assertion that it would be inherent for Bullman to disclose computing an average mean square error (AMSE) based on the MSE by the upper layer software. The Examiner must provide a basis in fact and/or technical reasoning to support the assertion that Bullman inherently discloses computing an average mean square error (AMSE) based on the MSE by the upper layer software. *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). That is, the Examiner must provide extrinsic evidence that must make clear that Bullman inherently discloses computing an average mean square error (AMSE) based on the MSE by the upper layer software, and that it would be so recognized by persons of ordinary skill. *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). Since

¹ If the Examiner is asserting that Bullman is missing the claim limitation of "extracting the MSE from the FSF by the upper layer driver software," then the Examiner is in essence rejecting claims 5 and 8 as being obvious over Bullman.

the Examiner has not provided any such objective evidence, the Examiner has not presented a *prima facie* case of anticipation for rejecting claim 5. M.P.E.P. §2131.

Further, Appellants respectfully traverse the implied assertion that it would have been obvious to one of ordinary skill in the art to modify Bullman to compute an average mean square error (AMSE) based on the MSE by the upper layer software. In order to establish a *prima facie* case of obviousness², the Examiner must provide some suggestion or motivation, either in the references themselves, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved, to modify the reference or to combine reference teachings. *See In re Dembiczak*, 175 F.3d 1994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). The Examiner has not presented any motivation for modifying Bullman to compute an average mean square error (AMSE) based on the MSE by the upper layer software. Instead, the Examiner is relying upon his own subjective opinion which is insufficient to support a *prima facie* case of obviousness. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002). Consequently, the Examiner has not presented a *prima facie* case of anticipation/obviousness for rejecting claim 5.

Appellants further assert that Bullman does not disclose "computing an AMSE for a history window of frame based by the upper layer software" as recited in claim 8. The Examiner cites page 2, lines 5-22 of Appellants' Specification as disclosing the above-cited claim limitation. Office Action (2/28/2006), page 3. Appellants respectfully traverse.

Appellants respectfully traverse the assertion that it would be inherent for Bullman to disclose computing an AMSE for a history window of frame based by the upper layer software. The Examiner must provide a basis in fact and/or technical reasoning to support the assertion that Bullman inherently discloses computing an

² If the Examiner is asserting that Bullman is missing the claim limitation of "computing an average mean square error (AMSE) based on the MSE by the upper layer software," then the Examiner is in essence rejecting claim 5 as being obvious over Bullman.

AMSE for a history window of frame based by the upper layer software. *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). That is, the Examiner must provide extrinsic evidence that must make clear that Bullman inherently discloses computing an AMSE for a history window of frame based by the upper layer software, and that it would be so recognized by persons of ordinary skill. *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). Since the Examiner has not provided any such objective evidence, the Examiner has not presented a *prima facie* case of anticipation for rejecting claim 8. M.P.E.P. §2131.

Further, Appellants respectfully traverse the implied assertion that it would have been obvious to one of ordinary skill in the art to modify Bullman to compute an AMSE for a history window of frame based by the upper layer software. In order to establish a *prima facie* case of obviousness³, the Examiner must provide some suggestion or motivation, either in the references themselves, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved, to modify the reference or to combine reference teachings. *See In re Dembiczak*, 175 F.3d 1994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). The Examiner has not presented any motivation for modifying Bullman to compute an AMSE for a history window of frame based by the upper layer software. Instead, the Examiner is relying upon his own subjective opinion which is insufficient to support a *prima facie* case of obviousness. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002). Consequently, the Examiner has not presented a *prima facie* case of anticipation/obviousness for rejecting claim 8.

Appellants further assert that Bullman does not disclose "comparing the AMSE with a range of AMSE values for a PE" as recited in claim 8. The Examiner cites page 2, lines 5-22 of Appellants' Specification as disclosing the above-cited claim limitation. Office Action (2/28/2006), page 3. Appellants respectfully traverse.

³ If the Examiner is asserting that Bullman is missing the claim limitation of "computing an AMSE for a history window of frame based by the upper layer software," then the Examiner is in essence rejecting claim 8 as being obvious over Bullman.

Appellants respectfully traverse the assertion that it would be inherent for Bullman to disclose comparing the AMSE with a range of AMSE values for a PE. The Examiner must provide a basis in fact and/or technical reasoning to support the assertion that Bullman inherently discloses comparing the AMSE with a range of AMSE values for a PE. *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). That is, the Examiner must provide extrinsic evidence that must make clear that Bullman inherently discloses comparing the AMSE with a range of AMSE values for a PE, and that it would be so recognized by persons of ordinary skill. *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). Since the Examiner has not provided any such objective evidence, the Examiner has not presented a *prima facie* case of anticipation for rejecting claim 8. M.P.E.P. §2131.

Further, Appellants respectfully traverse the implied assertion that it would have been obvious to one of ordinary skill in the art to modify Bullman to compare the AMSE with a range of AMSE values for a PE. In order to establish a *prima facie* case of obviousness⁴, the Examiner must provide some suggestion or motivation, either in the references themselves, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved, to modify the reference or to combine reference teachings. *See In re Dembiczak*, 175 F.3d 1994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). The Examiner has not presented any motivation for modifying Bullman to compare the AMSE with a range of AMSE values for a PE. Instead, the Examiner is relying upon his own subjective opinion which is insufficient to support a *prima facie* case of obviousness. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002). Consequently, the Examiner has not presented a *prima facie* case of anticipation/obviousness for rejecting claim 8.

Appellants further assert that Bullman does not disclose "transmitting at the PE if the AMSE is within the range" as recited in claim 8. The Examiner cites page 2,

⁴ If the Examiner is asserting that Bullman is missing the claim limitation of "comparing the AMSE with a range of AMSE values for a PE," then the Examiner is in essence rejecting claim 8 as being obvious over Bullman.

lines 5-22 of Appellants' Specification as disclosing the above-cited claim limitation. Office Action (2/28/2006), page 3. Appellants respectfully traverse.

Appellants respectfully traverse the assertion that it would be inherent for Bullman to disclose transmitting at the PE if the AMSE is within the range. The Examiner must provide a basis in fact and/or technical reasoning to support the assertion that Bullman inherently discloses transmitting at the PE if the AMSE is within the range. *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). That is, the Examiner must provide extrinsic evidence that must make clear that Bullman inherently discloses transmitting at the PE if the AMSE is within the range, and that it would be so recognized by persons of ordinary skill. *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). Since the Examiner has not provided any such objective evidence, the Examiner has not presented a *prima facie* case of anticipation for rejecting claim 8. M.P.E.P. §2131.

Further, Appellants respectfully traverse the implied assertion that it would have been obvious to one of ordinary skill in the art to modify Bullman to transmit at the PE if the AMSE is within the range. In order to establish a *prima facie* case of obviousness⁵, the Examiner must provide some suggestion or motivation, either in the references themselves, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved, to modify the reference or to combine reference teachings. *See In re Dembiczak*, 175 F.3d 1994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). The Examiner has not presented any motivation for modifying Bullman to transmit at the PE if the AMSE is within the range. Instead, the Examiner is relying upon his own subjective opinion which is insufficient to support a *prima facie* case of obviousness. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002). Consequently, the Examiner has not presented a *prima facie* case of anticipation/obviousness for rejecting claim 8.

⁵ If the Examiner is asserting that Bullman is missing the claim limitation of "transmitting at the PE if the AMSE is within the range," then the Examiner is in essence rejecting claim 8 as being obvious over Bullman.

Appellants further assert that Bullman does not disclose "negotiating a change in the PE if the AMSE is not within the range" as recited in claim 8. The Examiner cites page 2, lines 5-22 of Appellants' Specification as disclosing the above-cited claim limitation. Office Action (2/28/2006), page 3. Appellants respectfully traverse.

Appellants respectfully traverse the assertion that it would be inherent for Bullman to disclose negotiating a change in the PE if the AMSE is not within the range. The Examiner must provide a basis in fact and/or technical reasoning to support the assertion that Bullman inherently discloses negotiating a change in the PE if the AMSE is not within the range. *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). That is, the Examiner must provide extrinsic evidence that must make clear that Bullman inherently discloses negotiating a change in the PE if the AMSE is not within the range, and that it would be so recognized by persons of ordinary skill. *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). Since the Examiner has not provided any such objective evidence, the Examiner has not presented a *prima facie* case of anticipation for rejecting claim 8. M.P.E.P. §2131.

Further, Appellants respectfully traverse the implied assertion that it would have been obvious to one of ordinary skill in the art to modify Bullman to negotiate a change in the PE if the AMSE is not within the range. In order to establish a *prima facie* case of obviousness⁶, the Examiner must provide some suggestion or motivation, either in the references themselves, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved, to modify the reference or to combine reference teachings. *See In re Dembiczak*, 175 F.3d 1994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). The Examiner has not presented any motivation for modifying Bullman to negotiate a change in the PE if the AMSE is not within the range. Instead, the Examiner is relying upon his own subjective opinion which is insufficient to support a *prima facie* case of obviousness. *In re Lee*,

⁶ If the Examiner is asserting that Bullman is missing the claim limitation of "negotiating a change in the PE if the AMSE is not within the range," then the Examiner is in essence rejecting claim 8 as being obvious over Bullman.

61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002). Consequently, the Examiner has not presented a *prima facie* case of anticipation/obviousness for rejecting claim 8.

2. Claims 2-4 and 6-7 are not anticipated by Bullman for at least the reasons that claims 1 and 5, respectively, are not anticipated by Bullman.

Appellants respectfully assert that claims 2-4 each recite combinations of features of claim 1, and thus claims 2-4 are not anticipated by Bullman for at least the reasons that claim 1 is not anticipated by Bullman as discussed above in Section A.1. Appellants further assert that claims 6-7 each recite combinations of features of claim 5, and thus claims 6-7 are not anticipated by Bullman for at least the reasons that claim 5 is not anticipated by Bullman as discussed above in Section A.1.

3. Claim 2 is not anticipated by Bullman.

Appellants respectfully assert that Bullman does not disclose "extracting the MSE from the FSF by the upper layer driver software" as recited in claim 2. The Examiner cites page 2, lines 5-22 of Appellants' Specification as disclosing the above-cited claim limitation. Office Action (2/28/2006), page 3. Appellants respectfully traverse.

There is no language on page 2, lines 5-22 of Appellants' Specification as disclosing extracting the MSE from the FSF. Neither is there any language on page 2, lines 5-22 of Appellants' Specification as disclosing extracting the MSE from the FSF by the upper layer driver software. Thus, Bullman does not disclose all of the limitations of claim 2, and thus Bullman does not anticipate claim 2. M.P.E.P. §2131.

Further, Appellants respectfully traverse the assertion that it would be inherent for Bullman to disclose extracting the MSE from the FSF by the upper layer driver software. The Examiner must provide a basis in fact and/or technical reasoning to support the assertion that Bullman inherently discloses extracting the MSE from the FSF by the upper layer driver software. *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464

(Bd. Pat. App. & Inter. 1990). That is, the Examiner must provide extrinsic evidence that must make clear that Bullman inherently discloses extracting the MSE from the FSF by the upper layer driver software, and that it would be so recognized by persons of ordinary skill. *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). Since the Examiner has not provided any such objective evidence, the Examiner has not presented a *prima facie* case of anticipation for rejecting claim 2. M.P.E.P. §2131.

Further, Appellants respectfully traverse the implied assertion that it would have been obvious to one of ordinary skill in the art to modify Bullman to extract the MSE from the FSF by the upper layer driver software. In order to establish a *prima facie* case of obviousness⁷, the Examiner must provide some suggestion or motivation, either in the references themselves, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved, to modify the reference or to combine reference teachings. *See In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). The Examiner has not presented any motivation for modifying Bullman to extract the MSE from the FSF by the upper layer driver software. Instead, the Examiner is relying upon his own subjective opinion which is insufficient to support a *prima facie* case of obviousness. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002). Consequently, the Examiner has not presented a *prima facie* case of anticipation/obviousness for rejecting claim 2.

Appellants further assert that Bullman does not disclose "computing an average mean square error (AMSE) based on the MSE by the upper layer software" as recited in claim 2. The Examiner cites page 2, lines 5-22 of Appellants' Specification as disclosing the above-cited claim limitation. Office Action (2/28/2006), page 3. Appellants respectfully traverse.

⁷ If the Examiner is asserting that Bullman is missing the claim limitation of "extracting the MSE from the FSF by the upper layer driver software," then the Examiner is in essence rejecting claim 2 as being obvious over Bullman.

Appellants respectfully traverse the assertion that it would be inherent for Bullman to disclose computing an average mean square error (AMSE) based on the MSE by the upper layer software. The Examiner must provide a basis in fact and/or technical reasoning to support the assertion that Bullman inherently discloses computing an average mean square error (AMSE) based on the MSE by the upper layer software. *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). That is, the Examiner must provide extrinsic evidence that must make clear that Bullman inherently discloses computing an average mean square error (AMSE) based on the MSE by the upper layer software, and that it would be so recognized by persons of ordinary skill. *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). Since the Examiner has not provided any such objective evidence, the Examiner has not presented a *prima facie* case of anticipation for rejecting claim 2. M.P.E.P. §2131.

Further, Appellants respectfully traverse the implied assertion that it would have been obvious to one of ordinary skill in the art to modify Bullman to compute an average mean square error (AMSE) based on the MSE by the upper layer software. In order to establish a *prima facie* case of obviousness⁸, the Examiner must provide some suggestion or motivation, either in the references themselves, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved, to modify the reference or to combine reference teachings. *See In re Dembiczak*, 175 F.3d 1994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). The Examiner has not presented any motivation for modifying Bullman to compute an average mean square error (AMSE) based on the MSE by the upper layer software. Instead, the Examiner is relying upon his own subjective opinion which is insufficient to support a *prima facie* case of obviousness. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002). Consequently, the Examiner has not presented a *prima facie* case of anticipation/obviousness for rejecting claim 2.

⁸ If the Examiner is asserting that Bullman is missing the claim limitation of "computing an average mean square error (AMSE) based on the MSE by the upper layer software," then the Examiner is in essence rejecting claim 2 as being obvious over Bullman.

4. Claims 3 and 6 are not anticipated by Bullman.

Appellants respectfully assert that Bullman does not disclose "computing the AMSE for a history window of frame based by the upper layer software" as recited in claim 3 and similarly in claim 6. The Examiner cites page 2, lines 5-22 of Appellants' Specification as disclosing the above-cited claim limitation. Office Action (2/28/2006), page 3. Appellants respectfully traverse.

Appellants respectfully traverse the assertion that it would be inherent for Bullman to disclose computing an AMSE for a history window of frame based by the upper layer software. The Examiner must provide a basis in fact and/or technical reasoning to support the assertion that Bullman inherently discloses computing an AMSE for a history window of frame based by the upper layer software. *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). That is, the Examiner must provide extrinsic evidence that must make clear that Bullman inherently discloses computing an AMSE for a history window of frame based by the upper layer software, and that it would be so recognized by persons of ordinary skill. *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). Since the Examiner has not provided any such objective evidence, the Examiner has not presented a *prima facie* case of anticipation for rejecting claims 3 and 6. M.P.E.P. §2131.

Further, Appellants respectfully traverse the implied assertion that it would have been obvious to one of ordinary skill in the art to modify Bullman to compute an AMSE for a history window of frame based by the upper layer software. In order to establish a *prima facie* case of obviousness⁹, the Examiner must provide some suggestion or motivation, either in the references themselves, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved, to modify the reference or to combine reference teachings. *See In re Dembiczak*, 175

⁹ If the Examiner is asserting that Bullman is missing the claim limitation of "computing the AMSE for a history window of frame based by the upper layer software," then the Examiner is in essence rejecting claims 3 and 6 as being obvious over Bullman.

F.3d 1994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). The Examiner has not presented any motivation for modifying Bullman to compute an AMSE for a history window of frame based by the upper layer software. Instead, the Examiner is relying upon his own subjective opinion which is insufficient to support a *prima facie* case of obviousness. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002). Consequently, the Examiner has not presented a *prima facie* case of anticipation/obviousness for rejecting claims 3 and 6.

5. Claims 4 and 7 are not anticipated by Bullman.

Appellants respectfully assert that Bullman does not disclose "comparing the AMSE with a range of AMSE values for a payload encoding (PE)" as recited in claim 4 and similarly in claim 7. The Examiner cites page 2, lines 5-22 of Appellants' Specification as disclosing the above-cited claim limitation. Office Action (2/28/2006), page 3. Appellants respectfully traverse.

Appellants respectfully traverse the assertion that it would be inherent for Bullman to disclose comparing the AMSE with a range of AMSE values for a PE. The Examiner must provide a basis in fact and/or technical reasoning to support the assertion that Bullman inherently discloses comparing the AMSE with a range of AMSE values for a PE. *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). That is, the Examiner must provide extrinsic evidence that must make clear that Bullman inherently discloses comparing the AMSE with a range of AMSE values for a PE, and that it would be so recognized by persons of ordinary skill. *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). Since the Examiner has not provided any such objective evidence, the Examiner has not presented a *prima facie* case of anticipation for rejecting claims 4 and 7. M.P.E.P. §2131.

Further, Appellants respectfully traverse the implied assertion that it would have been obvious to one of ordinary skill in the art to modify Bullman to compare the AMSE with a range of AMSE values for a PE. In order to establish a *prima facie*

case of obviousness¹⁰, the Examiner must provide some suggestion or motivation, either in the references themselves, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved, to modify the reference or to combine reference teachings. See *In re Dembiczak*, 175 F.3d 1994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). The Examiner has not presented any motivation for modifying Bullman to compare the AMSE with a range of AMSE values for a PE. Instead, the Examiner is relying upon his own subjective opinion which is insufficient to support a *prima facie* case of obviousness. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002). Consequently, the Examiner has not presented a *prima facie* case of anticipation/obviousness for rejecting claims 4 and 7.

Appellants further assert that Bullman does not disclose "transmitting at the PE if the AMSE is within the range" as recited in claim 4 and similarly in claim 7. The Examiner cites page 2, lines 5-22 of Appellants' Specification as disclosing the above-cited claim limitation. Office Action (2/28/2006), page 3. Appellants respectfully traverse.

Appellants respectfully traverse the assertion that it would be inherent for Bullman to disclose transmitting at the PE if the AMSE is within the range. The Examiner must provide a basis in fact and/or technical reasoning to support the assertion that Bullman inherently discloses transmitting at the PE if the AMSE is within the range. *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). That is, the Examiner must provide extrinsic evidence that must make clear that Bullman inherently discloses transmitting at the PE if the AMSE is within the range, and that it would be so recognized by persons of ordinary skill. *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). Since the Examiner has not provided any such objective evidence, the Examiner has not presented a *prima facie* case of anticipation for rejecting claims 4 and 7. M.P.E.P. §2131.

¹⁰ If the Examiner is asserting that Bullman is missing the claim limitation of "comparing the AMSE with a range of AMSE values for a payload encoding (PE)," then the Examiner is in essence rejecting claims 4 and 7 as being obvious over Bullman.

Further, Appellants respectfully traverse the implied assertion that it would have been obvious to one of ordinary skill in the art to modify Bullman to transmit at the PE if the AMSE is within the range. In order to establish a *prima facie* case of obviousness¹¹, the Examiner must provide some suggestion or motivation, either in the references themselves, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved, to modify the reference or to combine reference teachings. See *In re Dembiczak*, 175 F.3d 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). The Examiner has not presented any motivation for modifying Bullman to transmit at the PE if the AMSE is within the range. Instead, the Examiner is relying upon his own subjective opinion which is insufficient to support a *prima facie* case of obviousness. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002). Consequently, the Examiner has not presented a *prima facie* case of anticipation/obviousness for rejecting claims 4 and 7.

Appellants further assert that Bullman does not disclose "negotiating a change in the PE if the AMSE is not within the range" as recited in claim 4 and similarly in claim 7. The Examiner cites page 2, lines 5-22 of Appellants' Specification as disclosing the above-cited claim limitation. Office Action (2/28/2006), page 3. Appellants respectfully traverse.

Appellants respectfully traverse the assertion that it would be inherent for Bullman to disclose negotiating a change in the PE if the AMSE is not within the range. The Examiner must provide a basis in fact and/or technical reasoning to support the assertion that Bullman inherently discloses negotiating a change in the PE if the AMSE is not within the range. *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). That is, the Examiner must provide extrinsic evidence that must make clear that Bullman inherently discloses negotiating a change in the PE if the AMSE is not within the range, and that it would be so recognized by persons of

¹¹ If the Examiner is asserting that Bullman is missing the claim limitation of "transmitting at the PE if the AMSE is within the range," then the Examiner is in essence rejecting claims 4 and 7 as being obvious over Bullman.

ordinary skill. *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). Since the Examiner has not provided any such objective evidence, the Examiner has not presented a *prima facie* case of anticipation for rejecting claims 4 and 7. M.P.E.P. §2131.

Further, Appellants respectfully traverse the implied assertion that it would have been obvious to one of ordinary skill in the art to modify Bullman to negotiate a change in the PE if the AMSE is not within the range. In order to establish a *prima facie* case of obviousness¹², the Examiner must provide some suggestion or motivation, either in the references themselves, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved, to modify the reference or to combine reference teachings. *See In re Dembiczak*, 175 F.3d 1994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). The Examiner has not presented any motivation for modifying Bullman to negotiate a change in the PE if the AMSE is not within the range. Instead, the Examiner is relying upon his own subjective opinion which is insufficient to support a *prima facie* case of obviousness. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002). Consequently, the Examiner has not presented a *prima facie* case of anticipation/obviousness for rejecting claims 4 and 7.

¹² If the Examiner is asserting that Bullman is missing the claim limitation of "negotiating a change in the PE if the AMSE is not within the range," then the Examiner is in essence rejecting claims 4 and 7 as being obvious over Bullman.

VIII. CONCLUSION

For the reasons noted above, the rejections of claims 1-9 are in error. Appellants respectfully request reversal of the rejections and allowance of claims 1-9.

Respectfully submitted,

WINSTEAD SECHREST & MINICK P.C.

Attorneys for Appellants

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CLAIMS APPENDIX

1. A method for communicating a Physical Layer (PHY) mean square error (MSE) to an upper layer device driver, comprising the steps of:
 - (a) receiving a frame by the PHY;
 - (b) computing a MSE for the frame by the PHY;
 - (c) sending the MSE and the frame to a Media Access Control (MAC);
 - (d) inserting the MSE into a frame status frame (FSF) associated with the frame by the MAC; and
 - (e) sending the frame and the FSF to the upper layer driver software.
2. The method of claim 1, further comprising:
 - (f) extracting the MSE from the FSF by the upper layer driver software;and
 - (g) computing an average mean square error (AMSE) based on the MSE by the upper layer software.
3. The method of claim 2, wherein the computing step (g) comprises;
 - (g1) computing the AMSE for a history window of frames by the upper layer driver software.
4. The method of claim 2, further comprising:
 - (h) comparing the AMSE with a range of AMSE values for a payload encoding (PE);
 - (i) transmitting at the PE if the AMSE is within the range; and
 - (j) negotiating a change in the PE if the AMSE is not within the range.
5. A method for communicating a PHY MSE to an upper layer device driver, comprising the steps of:
 - (a) receiving a frame by the PHY;

- (b) computing a MSE for the frame by the PHY;
 - (c) sending the MSE and the frame to a MAC;
 - (d) inserting the MSE into a FSF associated with the frame by the MAC;
 - (e) sending the frame and the FSF to the upper layer driver software;
 - (f) extracting the MSE from the FSF by the upper layer driver software;
- and
- (g) computing an AMSE based on the MSE by the upper layer software.

6. The method of claim 5, wherein the computing step (g) comprises:

- (g1) computing the AMSE for a history window of frames by the upper layer driver software.

7. The method of claim 5, further comprising:

- (h) comparing the AMSE with a range of AMSE values for a PE;
- (i) transmitting at the PE if the AMSE is within the range; and
- (j) negotiating a change in the PE if the AMSE is not within the range.

8. A method for communicating a PHY MSE to an upper layer device driver, comprising the steps of:

- (a) receiving a frame by the PHY;
 - (b) computing a MSE for the frame by the PHY;
 - (c) sending the MSE and the frame to a MAC;
 - (d) inserting the MSE into a FSF associated with the frame by the MAC;
 - (e) sending the frame and the FSF to the upper layer driver software;
 - (f) extracting the MSE from the FSF by the upper layer driver software;
 - (g) computing an AMSE for a history window of frame based by the upper layer software;
- (h) comparing the AMSE with a range of AMSE values for a PE;
 - (i) transmitting at the PE if the AMSE is within the range; and

- (j) negotiating a change in the PE if the AMSE is not within the range.

9. A computer readable medium with program instructions for communicating a PHY MSE to an upper layer device driver, comprising the steps of:

- (a) receiving a frame by the PHY;
- (b) computing a MSE for the frame by the PHY;
- (c) sending the MSE and the frame to a MAC;
- (d) inserting the MSE into a FSF associated with the frame by the MAC;

and

- (e) sending the frame and the FSF to the upper layer driver software.

EVIDENCE APPENDIX

No evidence was submitted pursuant to §§1.130, 1.131, or 1.132 of 37 C.F.R. or of any other evidence entered by the Examiner and relied upon by Appellants in the Appeal.

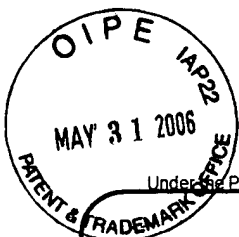
F0994

PATENT

RELATED PROCEEDINGS APPENDIX

There are no related proceedings to the current proceeding.

Austin_1 314050v.1



BAK ZW

PTO/SB/21 (08-03)

Approved for use through 08/30/2003. OMB 0651-0031

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TRANSMITTAL FORM

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Total Number of Pages in This Submission

31

Application Number

09/911,907

Filing Date

7/23/2001

First Named Inventor

Chow et al.

Art Unit

2181

Examiner Name

Niketa I. Patel

Attorney Docket Number

2017P/F0994 (184-P113US)

ENCLOSURES (Check all that apply)

- | | | |
|--|---|--|
| <input checked="" type="checkbox"/> Fee Transmittal Form | <input type="checkbox"/> Drawing(s) | <input type="checkbox"/> After Allowance communication to Technology Center (TC) |
| <input type="checkbox"/> Fee Attached Amendment / Reply | <input type="checkbox"/> Licensing-related Papers | <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences |
| <input type="checkbox"/> After Final | <input type="checkbox"/> Petition | <input checked="" type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) |
| <input type="checkbox"/> Affidavits/declaration(s) | <input type="checkbox"/> Petition to Convert to a Provisional Application | <input type="checkbox"/> Proprietary Information |
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| <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53 | | |

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Winstead Sechrest & Minick, P.C. Robert A. Voigt, Jr., Reg. No. 47,159
Signature	
Date	May 26, 2006

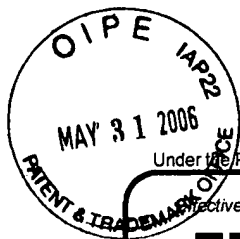
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FEE TRANSMITTAL

For FY 2005

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 500.00

Complete if Known

Application Number	09/911,907
Filing Date	July 23, 2001
First Named Inventor	Chow et al.
Examiner Name	Niketa I. Patel
Art Unit	2181
Attorney Docket No.	2017P/F0994 (184-P113US)

METHOD OF PAYMENT (check all that apply)☐ Check ☐ Credit Card ☐ Money Order☒ Deposit Account ☐ NoneDeposit
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01-0365

Advanced Micro Devices, Inc.

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- ☒ Charge fee(s) indicated below
- ☐ Charge fee(s) indicated below, except for the filing fee
- ☒ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17
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to the above-identified deposit account.

☐ Other (please identify): _____**WARNING:** Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**FEE CALCULATION****1. BASIC FILING FEE**

Fee Description	Fee (\$)	Small Entity Fee (\$)	Fee Paid(\$)
Utility Filing Fee	790	395	
Design Filing Fee	350	175	
Plant Filing Fee	550	275	
Reissue Filing Fee	790	395	
Provisional Filing Fee	160	80	

Subtotal (1) \$ 0.00

FEE CALCULATION (continued)**2. EXTRA CLAIM FEES**

Fee Description	Fee (\$)	Small Entity Fee (\$)
Each claim over 20	50	25
Each independent claim over 3	200	100
Multiple dependent claims	360	180
For Reissues, each claim over 20 and more than in the original patent	50	25
For Reissues, each independent claim more than in the original patent	200	100

Total Claims	Extra Claims	Fee (\$)	Fee Paid (\$)
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_____ - 20 or HP = _____ x _____ = _____
HP = highest number of total claims paid for, if greater than 20

Indep. Claims	Extra Claims	Fee (\$)	Fee Paid (\$)
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_____ - 3 or HP = _____ x _____ = _____
HP = highest number of independent claims paid for, if greater than 3

Multiple Dependent Claims	Fee (\$)	Fee Paid (\$)
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Subtotal (2) \$ 0.00

3. OTHER FEES

Fee Description	Fee (\$)	Small Entity Fee (\$)	Fee Paid(\$)
1-month extension of time	120	60	
2-month extension of time	450	225	
3-month extension of time	1,020	510	
4-month extension of time	1,590	795	
5-month extension of time	2,160	1,080	
Information disclosure stmt. fee	180	180	
37 CFR 1.17(q) processing fee	50	50	
Non-English specification	130	130	
Notice of Appeal	500	250	
Filing a brief in support of appeal	500	250	500.00
Request for oral hearing	1,000	500	
Other:			

Subtotal (3) \$ 500.00

SUBMITTED BY

Signature		Registration No. (Attorney/Agent)	47.159	Telephone	512.370.2832
Name (Print/Type)	Robert A. Voigt, Jr.	Date	May 26, 2006		

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